

Review Article

The fodder oat (*Avena sativa*) mixed legume forages farming: Nutritional and ecological benefits

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ABSTRACT

Oat (*Avena sativa* L.) is one of the most important cultivated winter fodder crops for livestock in Nepal. Yet, its production potential is not fully explored in Nepal for different locations and in combination with legumes. One of the major problems in ruminant feeding in Nepal is the shortage of quality fodder during the winter season where oats-legume mixture would play an important role. Oats are better adapted to different soil types and can perform better on acid soils in comparison to other small cereal grains. Intercropping is a traditional farming technique, which is important in farming systems of developing countries but far less widespread in mechanized systems; however, there is an increased interest in intercropping systems for developing sustainable farming systems mostly for grass-legume polycultures. The review concluded that oats in combination with legumes could be a potential model of intercropping to attain an increased forage dry matter (DM) yield without jeopardizing the quality issue, especially during winter and further, it is required to define the optimum management of these grass-legume species such as oats and vetch and oats and pea in various environments such as choice of grasses and legume species, seed rate, sowing time and fertilizer efficiencies, irrigation requirements and increase in herbage quality is possible if the legumes are dominant in grass-legumes mixture. The advantage of oat-legume mix farming is that it may be produced in a wider range of soil classes, which determines the ecological benefits. However, it further requires a series of experiments to conclude in all aspects.

Keywords: Oat, grass-legume mixture, intercropping, fodder, nutritive value, chemical composition

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